

OPTIMIZING ROTARY IMPACT COLLECTORS

Abstract of the Disclosure

The present invention relates to optimizing the configuration of rotary impact collectors and devices in which such rotary impact collectors are employed. Rotary impact collectors are formed out of base plate upon which a plurality of vanes are mounted. One aspect of the present invention is a combined impact collector and fan in which the ratio of vane height to impeller diameter is in the range of about 0.01 to about 0.2. Preferably, the vanes are evenly spaced around the impeller so as to present a balanced load to the motor. Other performance enhancing elements include the use of truncated vanes, configurations optimized for injection molding fabrication, controlling the orientation of the vanes to reduce the formation of vortex forces, and enhancements configured to increase the ability to collected particles rinsed off such impellers.

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